

Abstract

High-pressure pump piston/cylinder unit

In order to preclude the risk of wear as a result of axial offset to the piston (2) which is guided in the pump cylinder (3), in a high-pressure pump piston/cylinder unit, in which a pump cylinder (3) having a piston (2) which oscillates therein is provided in a housing (1), the piston (2) being operatively connected on one end side to a controlled drive (4), in order to vary a suction and compression stroke volume on the other end side, the head region, in the pump cylinder (3), with the result that the pressure of the fluid which is sucked into the pump cylinder (3) from a conveying flow inlet (9) is increased by the stroke of the piston (2), in order to make it available to a further supply element by means of a conveying valve (8), there is provision for a centering cone (20) in the form of a straight truncated cone having a circular base area (D) and top area (d) to be formed integrally on the pump piston (2) on the head region, the maximum half diameter reduction ($\frac{1}{2} \times [D-d]$) of said centering cone (20) with respect to the diameter (D) of the piston skirt (2) being in a ratio of approximately 1:200, and the axial length (l) of said centering cone (20) being designed in relation to the axial length (L) of the entire piston skirt (2) in a ratio (l:L) of approximately 1:6.6.